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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,314	02/27/2004	Ryan Mitchell Bayne	13210-39	4335
1059	7590	12/29/2005	EXAMINER	
BERESKIN AND PARR 40 KING STREET WEST BOX 401 TORONTO, ON M5H 3Y2 CANADA			TIBBITS, PIA FLORENCE	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/787,314

Applicant(s)

BAYNE ET AL.

Examiner

Pia F. Tibbits

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/2/04, 2/27/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the average current drain (method step) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by **Cho** [5717309].

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Cho discloses in figures 3-5 an apparatus comprising: allocating charging currents from a single current source V_{in} to two or more separate charging ports FET616 and FET619 having two or more rechargeable batteries B41 and B42 coupled respectively thereto so that said two or more rechargeable batteries B41 and B42 will be fully charged at substantially the same time [see abstract; column 6, lines 52-53].

As to the method claim 1: the method steps will be met during the normal operation of the apparatus described above.

4. Claims 1, 2, 4 are rejected under 35 U.S.C. 102(b) as being anticipated by **Nelson et al.** [hereinafter Nelson] [5717309].

Nelson discloses in figures 1-9 an apparatus comprising: allocating charging currents from a single current source [see fig.4] to two or more separate charging ports 72a, 72b having two or more rechargeable batteries 78 coupled respectively thereto so that said two or more rechargeable batteries 78 will be fully charged at substantially the same time [see abstract; column 3, lines 24-40].

As to claim 2, determining relative amounts of charge required to fully charge said two or more rechargeable batteries: Nelson discloses that each energy storage circuit has a processor 80, such as a microprocessor, that is coupled to the power regulator on the same module and controls the function of the power regulator [see column 3, lines 38-40]. Therefore, it is an inherent function of the apparatus disclosed by Nelson to continuously monitor the relative amounts of charge required to fully charge said two or more rechargeable batteries, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent**.

As to claim 4, Nelson discloses in fig.4 a charger 70 comprising: a single current source [see fig.4]; two or more separate charging ports 72a, 72b; a current allocator 76 to allocate charging currents from said single current source to said two or more ports 72a, 72b; and a controller 82 to determine said charging currents so that two or more rechargeable batteries coupled respectively to said two or more ports will be fully charged at substantially the same time [see abstract; column 3, lines 24-40].

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As to the method claims 1, 2: the method steps will be met during the normal operation of the apparatus described above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Nelson**, as described above, in view of **Smart Battery Data Specification**@

http://www.sbsforum.org/specs/errata_sbdat110a.pdf

As to claim 3, "at least in part on an average current drain during usage" is indefinite since there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range of specific activity is covered by the term "at least in part on an average current drain during usage". To continue prosecution it was assumed that the battery current is detected.

Nelson does not disclose detecting the battery current.

Smart Battery Data Specification discloses a Smart Battery equipped with specialized hardware that provides present state, and calculated and predicted information to its controller, including, *inter alia*, current [see 5.1.11]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Nelson's apparatus and include a Smart Battery, as disclosed by Smart Battery Data Specification, in order to avoid overcharging and a temperature-dependent irreversible deterioration of the battery.

As to the method claim 3: the method steps will be met during the normal operation of the apparatus described above.

7. Claims 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nelson** and **Smart Battery Data Specification**, as described above, in view of **DE-4200693** [hereinafter DE].

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Nelson and Smart Battery Data Specification do not disclose one or more lookup tables, wherein said controller is to determine from said one or more lookup tables an amount of charge required to fully charge a battery based on said measured voltage difference, a battery type, and an average current drain of said battery during usage.

DE discloses LUT 6 that correlates allowable charging current values (I) to be delivered by a charger 11 as a function of voltage (U) **and** change in voltage (dU/dt). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Nelson's apparatus and include a LUT that correlates allowable charging current values (I) to be delivered by a charger 11 as a function of voltage (U) **and** change in voltage (dU/dt), as disclosed by DE, in order to link in a logic various parameters of the battery.

As to the a measurement unit to measure voltage differences at said two or more ports: it is an inherent function of the apparatus disclosed by Nelson and Smart Battery Data Specification to continuously monitor the voltage differences at said two or more ports from information communicated by the Smart Battery IC, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent**. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make separable the power regulator and the measurement unit, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961). See MPEP 2144.04.

As to claim 6, see remarks and references above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is 571-272-2086. If unavailable, contact

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the Supervisory Patent Examiner Karl Easthom whose telephone number is 571-272-1989. The Technology Center Fax number is 571-273-8300.

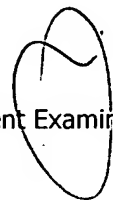
10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

December 22, 2005

Pia Tibbits

Primary Patent Examiner

A handwritten signature in black ink, consisting of a large, stylized loop followed by a smaller loop and a short horizontal stroke.